REMARKS

Claims 1-4 and 20-49 remain pending in this application. The Applicant understands that the subject matter of claims 3, 22 and 30 is considered allowable.

The Office Action rejects independent claims 1, 21, 25, 38, 39, and 46 in light of Ao, US 6,411,753. The Office Action does not discuss claim 49 although the Office Action Summary indicates that claim 49 is rejected.

The Applicant submits that the claim rejections set out in the Office Action are not proper because Ao fails to teach or suggest features of the independent claims. The other cited references fail to remedy the deficiencies of Ao.

Ao, as understood discloses an optical switch. The Ao switch has an M×N array of controllable elements aligned between a linear array of collimating lenses (3) and a linear array of focusing lenses (6).Importantly, the lenses of the Ao device are fixed focus. Each lens has a fixed focus so that beam waists are focused along diagonal (14). This can be readily appreciated from Ao's figures which show that the variations between the focal lengths of different ones of Ao's lenses is provided by a stepped or tapered spacer (4). Spacer (4) is fixed. Further, Ao talks about making fine adjustments to the gap (X) by altering the thickness of glue used to attach elements of the Ao switch together (col. 4, ln. 14-15).

Clearly the glue thickness is not changed while the Ao device is operating. These "adjustments" are done when constructing the Ao device. Ao's teaching is that the lenses remain focused on diagonal line (14). Ao provides no mechanism for altering a focus of any of Ao's lenses in operation.

Where Ao discusses "adjusting" the lengths of the lenses (see e.g. second line of Abstract; col. 3, 19-20; col. 3, ln. 34-35) Ao clearly means establishing what focal lengths the lenses should have in the process of designing a switch according to the description in the Ao disclosure. Ao clearly does not mean altering focal lengths of any of the lenses in operation. For example, in the abstract, Ao clearly teaches that each Ao lens remains focused on those reflecting elements that are located on the diagonal of the Ao device.

Claims 1-4

It follows from the above that the Office Action is incorrect where it states in paragraph 2 that Ao discloses "varying a focus of the selected input light beam to focus said selected light beam on said second selected reflective element". Since claim 1 recites this feature, the applicant submits that claim 1 clearly patentably distinguishes Ao. Claims 2-4 and 20 depend from claim 1 and are submitted to be patentable for at least this reason.

Claims 21-24

Claim 21 recites an "adaptive optical element having a focal length variable over a range" and "more than one ... reflective optical elements located within the range". It can be seen from the above that the Office Action is in error to state that Ao discloses "an adaptive optical element having a focal length variable over a range". All of the lenses in the Ao device are fixed and are focused on diagonal (14).

Therefore, the Applicant submits that claims 21-24 are in condition for allowance.

Claims 25-37

Claim 25 recites "at least one adjustable focus optical element ... configured to ... vary a focus" upon a different reflective element becoming selected. As noted above, Ao fails to teach or suggest this feature. The Office action is in error to assert that Figure 2 of Ao discloses an adjustable focus optical element. In Figure 2 of Ao, different lenses (3) are spaced apart from elements (2) by different distances (x) however, the entire structure is fixed and non-adjustable.

Therefore, the Applicant submits that claims 21-24 are in condition for allowance.

Claim 38

Claim 38 recites "a plurality of adjustable focus optical elements". As noted above, Ao lacks any adjustable focus optical elements. In light of the above discussion, paragraph 4 of the Office Action is in error to state that Ao discloses an adjustable focus optical element. The Office action is also in error in stating that Ao discloses an adjustable focus optical element configured to operate as recited in claim 38.

Therefore claim 38 is submitted to be in condition for allowance.

Claims 39-45

Claim 39 recites "operating an adjustable focus optical element". As noted above, Ao lacks any adjustable focus optical elements. The Office Action is in error to state that Ao discloses operating an adjustable focus element.

Therefore claims 39-45 are submitted to be in condition for allowance.

Claims 46-48

Claim 46 recites "altering a focus of an optical signal ..." As noted above, Ao fails to teach or suggest changing a focus of any optical element during operation of the Ao device. The Office Action is in error to state that Ao discloses "altering a focus of an optical signal ..." in the second last paragraph on page 4.

Therefore claims 46-48 are submitted to be in condition for allowance.

Claim 49

Claim 49 recites "focusing a selected radiation beam on a first selected reflective optical switching element ... and focusing the selected radiation beam on the second reflective optical switching element". As Ao does not disclose or suggest varying a focus of any radiation beam, the applicant submits that claim 49 clearly distinguishes Ao. Therefore claim 49 is submitted to be in condition for allowance.

Conclusion

All pending claims of this application are submitted to be in condition for allowance in light of the above. The Applicant respectfully requests reconsideration and allowance of this application.

Respectfully submitted,

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